

Dyspnea during daily activities predicts allcause mortality

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Dyspnea, a sensation of breathlessness, during light daily activities can be used as an indicator of exercise intolerance and low fitness. According to a study on Finnish twins, persistent or developing dyspnea reveals an increased risk of death.

The prospective cohort study on Finnish twins revealed that all-cause mortality increased along the degree of dyspnea during the 28-year follow-up. In the study, twin individuals with persistent dyspnea (dyspnea noticed in 1975 and 1981) and dyspnea developers (dyspnea noticed in 1981) had an increased risk of death (hazard ratio [HR] 1.41, 95% CI 1.31–1.52 and 1.16, 1.05–1.25 respectively) compared to asymptomatic individuals. Easy shortness of breath also indicated an increased risk of death among individuals considered healthy at the 1981 baseline.

To eliminate genetic background effects, within-pair analyses were conducted among pairs that were discordant for dyspnea and mortality rate. These analyses showed an increased risk of death also among discordant pairs: twins with persistent dyspnea had an increased risk of death compared to their asymptomatic co-twins (HR 1.47, 1.23–1.77). Respectively, a risk difference was seen in the pairwise analysis among healthy monozygotic twin pairs discordant for dyspnea (HR 2.64, 95% CI 1.21–5.74).

The study was a collaborative effort of the universities of Jyväskylä and Helsinki and was conducted among all same-sex twin pairs born in



Finland before 1958. Dyspnea was measured with a modified Medical Research Council (mMRC) scale. The scale includes four questions on the degree of dyspnea when walking and performing daily tasks (e.g. do you usually get short of breath when you walk uphill, climb stairs, when walking on level ground). The level and change in dyspnea between 1975 and 1981 were used to predict mortality during a 28-year follow up (between 1981 and 2010). In total 21,379 twin individuals (including 8,672 complete twin pairs) were studied.

The study shows that persistent dyspnea (breathlessness) predicts increased mortality during a 28-year follow-up even among individuals without a clinically overt disease known to associate with dyspnea. Based on the results, we believe that the <u>dyspnea</u> score, which can be easily obtained and correlates with fitness outcomes, could be a screening tool for identifying unfit individuals at an increased <u>mortality</u> risk.

More information: Waller K, Kaprio J, Kujala UM. "Dyspnea and All-Cause Mortality: 28-Year Follow-up Study among Adult Twins." *Med Sci Sports Exerc.* 2014, Feb 4. <u>www.ncbi.nlm.nih.gov/pubmed/24500534</u>

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